

JOURNAL SUPPLEMENT

INSTITUTION OF PRODUCTION ENGINEERS, 10, CHESTERFIELD ST., LONDON, W.1

Vol. 35, No. 2

FEBRUARY 1956

THE 1955 GEORGE BRAY MEMORIAL LECTURE

This lecture will be presented at the Royal Institution, London, on Wednesday, 7th March, 1956, when Sir Gordon Russell, C.B.E. R.D.I., Director of the Council of Industrial Design, will speak on:

"PRIDE IN WORKMANSHIP: TODAY'S CHALLENGE"

The meeting will be open to both members and non-members. Admission will be by ticket only, which may be obtained from the Secretary of the Institution of Production Engineers, using the form overleaf. The proceedings will commence at 6.30 p.m., preceded by tea at 5.30 p.m.

MATERIALS HANDLING FILM SHOW

The Materials Handling Sub-Committee are arranging for three films on materials handling to be shown at the College of Technology, Birmingham, on Tuesday, 27th March, 1956. The programme will commence at 7 p.m., and will include:

- "Pace Makers for Industry"
- "Layout Handling in Factories"
- "A Case for Handling"

The Sub-Committee feel that these films should interest any members and friends who are concerned with materials handling problems, and cordially invite them to be present.

Tickets of admission, which will each admit one member and one guest, will be circulated to all members in the Birmingham and Wolverhampton Sections, but additional tickets may be obtained from Head Office by completing and returning the form overleaf.

GRADUATES CONFERENCE, 1956

"Education and the Production Engineer"

A Conference for Graduates and Students to discuss the education and training of Production Engineers is to be held at the Liverpool Public Libraries on Saturday and Sunday, 7th and 8th April, 1956. Details of the programme, together with an application form, are being circulated to all Graduates and Students of the Institution. A very strong team of lecturers has accepted invitations to address the Conference, and it is hoped that all junior members will support this event, which has been specially arranged on their behalf by the Liverpool Graduate Section Committee.

B.P.C. BULLETIN

Members of the Institution will have received with the January issue of the Journal a copy of the B.P.C. Bulletin. Any members who would like to receive this Bulletin regularly are asked to inform the British Productivity Council at 21 Tothill Street, London, S.W.1.

To: THE SECRETARY,
INSTITUTION OF PRODUCTION ENGINEERS,
10 CHESTERFIELD STREET,
LONDON, W.1.

THE 1955 GEORGE BRAY MEMORIAL LECTURE, 7th MARCH, 1956

Please send me tickets of admission and preprints of the Paper, when available. I shall/shall not* require tea.

NAME.....

Block letters ADDRESS.....

PLEASE

* please delete as applicable.

To: THE SECRETARY,
INSTITUTION OF PRODUCTION ENGINEERS,
10 CHESTERFIELD STREET,
LONDON, W.1.

MATERIALS HANDLING FILM SHOW, 27th MARCH, 1956

Please send me tickets of admission to the Film Show at the College of Technology, Birmingham, on 27th March, 1956.

NAME.....

Block letters ADDRESS.....

PLEASE

LECTURE COURSE ON "AUTOMATION IN THE FACTORY"

The Engineering Production Department of the Northampton Polytechnic are running a course of 10 lectures, by a team of specialists, on "Automation in the Factory". The speakers include Mr. F. G. Woppard, Mr. J. B. Jay, Mr. J. A. Hunt, Mr. J. A. Stokes, and Mr. J. Loxham.

The lectures are intended for industrial executives, designers and management personnel who are interested both in existing applications in industry, and the potential scope of automation in future developments. The course commenced on 19th January, and will conclude on 22nd March. Further particulars may be obtained from the Secretary, Northampton Polytechnic, St. John Street, London, E.C.1.

The Automatic Factory: What Does it Mean?

A full report of the 1955 Margate Conference of the Institution of Production Engineers, which opened a new era of interest in the 'second industrial revolution', is given in this book. The twenty-one papers read are reproduced and together form a complete symposium on all aspects of automation, technical, managerial and social. Also included are reports on the exhibition of equipment and other features of the Conference. *Denby 4to, 228 pages, 105 plates, 65 diagrams, 30s. net.*

Now published for the Institution by

E. & F. N. SPON LTD.

22 HENRIETTA STREET
LONDON, W.C.2

" PRODUCTIVITY — MEASUREMENT REVIEW "

The attention of members is drawn to the above publication, which is published tri-monthly by the Economic Factors Division of the European Productivity Agency and contains many articles which are of great interest to members. Copies of this publication are obtainable from the O.E.E.C., Sales and Distribution Section, 2 rue Andre-Pascal, Paris, 16e., or from H.M. Stationery Office, P.O.B. 569, London, S.E.1.

The European Productivity Agency will welcome contributions to this publication from members of the Institution. Any member who would like to provide an article should write to the Publications Department, Institution of Production Engineers, 10 Chesterfield Street, London, W.1.

SECTION MEETINGS

Visitors Tickets may be obtained from Section Honorary Secretaries.

FEBRUARY, 1956

NORTH WESTERN REGION

Regional Meeting 7.15 p.m. for 7.45 p.m. February 10th
Annual North Western Regional Dinner.

EAST & WEST RIDINGS REGION

Doncaster 7 p.m. February 14th
The Danum Hotel, Doncaster.
"Industrial Applications of Atomic Energy" by H. Lyons.
Halifax 7.15 p.m. February 6th
The White Swan Hotel, Halifax.
"Computer Controlled Machine Tools" by H. Ogden,
B.Sc.(Eng.), A.F.R.Ae.S., Grad.I.Mech.E.

Halifax Graduate

2 p.m. February 8th

Works visit to Messrs. Crompton Parkinson Ltd., Guisley.

7.30 p.m. February 15th

The White Swan Hotel, Halifax.

"Human Relations in Industry" by C. W. Mustill, M.B.E.,

M.I.Mech.E., M.I.Prod.E., Assoc.I.H.V.E., F.I.W.M.

Sheffield

6.30 p.m. February 13th

The Grand Hotel, Sheffield.

"Copying Devices" by J. Lund, M.I.Prod.E.

Sheffield Graduate

February 20th

Toledo Steel Works, Neepsend Lane, Sheffield.

Practical lecture on the Rolling of Sectioned Material. A new style lecture held in the Rolling Mill under working

conditions. Admission to this lecture is by ticket only, obtainable from the Section Hon. Secretary.
Yorkshire 7 p.m. February 13th
The Hotel Metropole, King Street, Leeds, 1.
"Some Aspects of Production Engineering in the Clothing Industry" by R. R. May.

EASTERN REGION

Eastern Counties 7.30 p.m. February 10th
Diocesan Hall, Tower Street, Ipswich.
"Drop Forging" by G. Kemp.

Norwich 7.30 p.m. February 8th
The Assembly House, Theatre Street, Norwich.
"Material Handling for Batch Production" (by F. E. Rattidge, A.M.I.Prod.E.) read by A. Harvey.

MIDLANDS REGION

Birmingham February 11th
The Botanical Gardens, Birmingham
Annual Dinner Dance.

Birmingham 7 p.m. February 15th
The James Watt Memorial Institute, Great Charles Street, Birmingham.
"Recent Developments in High Production Foundries" by J. D. Berry, A.M.I.Prod.E., M.I.B.F.

Birmingham Graduate 10 a.m. February 18th
Works visit to Midlands Counties Dairy (Sterilising Dairy).

Coventry 7 p.m. February 8th
The Church House, Rugby.
"The Effect of Operative Conditions on Designing and Constructing of Diesel Electric Locomotives" by G. G. Kibblewhite.

Coventry 7 p.m. February 20th
The Craven Arms, High Street, Coventry.
Films on Automation—"Techniques for Tomorrow"; "The First Automatic Factory"; and "Production Miracles and Operation Pushbutton".

Coventry Graduate 7.15 p.m. February 15th
The Craven Arms, High Street, Coventry.
"Abrasives" by A. C. Turner, G.I.Mech.E., Grad.I.Prod.E. (Lecture and Film.)

Shrewsbury 7.30 p.m. February 29th
The Walker Technical College, Oakengates.
"Diamonds in Industry" by A. M. Livingstone.

Wolverhampton 7.15 p.m. February 1st
The Dudley Technical College, The Broadway, Dudley.
"The Argonaut Welding Process" by K. Purdy. (Illustrated by a film.)

Wolverhampton Graduate 7.30 p.m. February 22nd
The Wolverhampton and Staffordshire Technical College, Wulfruna Street, Wolverhampton.
"Some Further Developments in Centreless Grinding" by A. E. Adams, M.I.E.D.

Wolverhampton Graduate 7 p.m. February 29th
Works visit to Villiers Eng. Co. Ltd., Wolverhampton.

NORTH WESTERN REGION

Liverpool 7.30 p.m. February 8th
The Exchange Hotel, Liverpool.
"Non-Destructive Testing" by J. Johnson, B.Sc., A.Inst.P. (Section Leader of the Metallurgical Research Dept. of Metropolitan Vickers Electrical Company.)

Liverpool Graduate 7.30 p.m. February 28th
The Stork Hotel, Queens Square, Liverpool.
"Mechanics Applied to Machine Design" by T. M. Chesworth, A.M.I.Mech.E.

Manchester 7.15 p.m. February 20th
The Reynolds Hall, College of Technology, Sackville Street, Manchester.
"Shell Moulding" by Dr. L. Harrison, B.Met., Ph.D. (Research and Development Dept., Sheepbridge Engineering Ltd., Chesterfield).

Manchester Graduate 9.30 a.m. February 11th
A visit to the British Rayon Research Association, Heald Green Laboratories, Wythenshawe, Manchester.

Preston 7.15 p.m. February 8th
The Crown Hotel, Market Place, Blackburn.
"The Application of Accurate Measurement to Engineering Production" by J. Loxham, M.I.Mech.E., M.I.Prod.E., F.R.S.A.

Stoke-on-Trent 7.15 p.m. February 13th
The Hanley Town Hall, Hanley, Stoke-on-Trent.
"Pneumatic Aids to Production" by W. J. Ford, M.I.Prod.E.

NORTHERN REGION

North Eastern 7 p.m. February 20th
The Neville Hall, Newcastle-upon-Tyne.
"Remote Positional Control and its Possible Application to Automation" by J. D. Oates, B.Sc. and A. T. Granger, B.Sc.

North Eastern February 29th
The Old Assembly Rooms, Newcastle-upon-Tyne.
Annual Dinner and Dance.

North Eastern Graduate 7 p.m. February 10th
The Roadway House, 8 Oxford Street, Newcastle.
"The Part of National Standardisation in Increasing Productivity" by Dr. E. L. Diamond, M.Sc., M.I.Mech.E.

Tees-side 7 p.m. February 28th
The Cleveland Scientific and Technical Institution, Middlesbrough.
"Shell Moulding" by A. Cameron, M.I.Prod.E.

NORTHERN IRELAND REGION

Northern Ireland 7.30 p.m. February 16th
The Kensington Hotel, College Square East, Belfast.
"Metrology from the Designer's Point of View" by H. G. Conway, M.A., M.I.Mech.E., F.R.Ae.S.

NORTH MIDLANDS REGION

Derby 7 p.m. February 27th
The College of Art, Derby.
"Electronic Controlled Machines" by D. T. N. Williamson.

Leicester 7 p.m. February 9th
The Windsor Room, Bell Hotel, Leicester.
Annual General Meeting followed by colour film: "Induction Heating". (A.G.M. members only.)

Lincoln 7.30 p.m. February 23rd
The Ruston Club, Unity Square, Lincoln.
"Forms of Financial Incentive" by N. A. Cullin, B.A.(Cantab.), M.I.Prod.E.

Nottingham 7 p.m. February 1st
The Victoria Station Hotel, Nottingham.
"The High Cost of Low Overheads" by C. H. Starr, M.I.I.A., A.M.I.Mech.E., A.M.I.Prod.E. (Illustrated by slides.)

Peterborough 7.30 p.m. February 7th
The White Lion Hotel, Church Street, (opposite Corn Exchange), Peterborough.
"The use of Electronics in Engineering" by J. A. Stokes, B.Sc., A.M.I.E.E. and N. B. Milne. (Joint meeting with Institution of Incorporated Plant Engineers, 'Peterborough Section'.)

SCOTTISH REGION

Dundee 7.30 p.m. February 8th
The New Imperial Hotel, 15 Tally Street, Dundee.
"Electronic Control of Machine Tools" by E. Heys, A.M.I.E.E.

Edinburgh 7.30 p.m. February 15th
The North British Station Hotel, Edinburgh.
"Voith Schneider Propeller with Particular Reference to Its Manufacture" by A. Betts Brown, A.M.I.Mech.E., M.I.Prod.E., A.M.I.E.S.

Glasgow 7.30 p.m. February 16th
The Institution of Engineers and Shipbuilders in Scotland, 39 Elmbank Crescent, Glasgow, C.2.
"Electro Spark Machining" by G. Fefer, A.I.Prod.E.

SOUTHERN REGION

Oxford 7.15 p.m. February 14th
The Town Hall, Oxford.
"The Application of Hydraulic Mechanisms to Automatic Processes" by I. McNeill, M.A.(Cantab.), A.I.Mech.E.

Reading 7.30 p.m. February 16th
The Great Western Hotel, Reading.
"Welding Up to Date" by F. Pownall, A.M.Inst.W.

Reading **February 17th**
Inaugural Section Dinner at "Mill House", Swallowfield,
Nr. Reading.

Southern **7.15 p.m. February 16th**
The Polygon Hotel, Southampton.
"Tube Work and Manipulation" by L. C. Hackett.

SOUTH EASTERN REGION

London **7 p.m. February 16th**
The Royal Empire Society, Northumberland Avenue,
(Craven Street entrance), Strand, London, W.C.2.
"Milling versus Broaching" by A. R. Hambidge.

London **7.15 p.m. for 7.45 p.m. February 15th**
The Connaught Rooms, Great Queen Street, London, W.C.2.
Annual Stag Dinner.

London Graduate **7.15 p.m. February 7th**
The Institution of Production Engineers, 10 Chesterfield
Street, London, W.1.
"Rubber Press Forming" (for Aircraft) by W. Thorn.

Luton **7.30 p.m. February 28th**
The North Herts. Technical College, Letchworth, Herts.
"Some Recent Developments in Presswork Technique" by
T. G. Woodward, M.I.Prod.E.

Luton Graduate **7.30 p.m. February 7th**
Works visit to Flowers Brewery Ltd., Luton.

Rochester **7.30 p.m. February 9th**
The Assembly Room, Sun Hotel, Chatham.
"The Work of H.M. Inspectors of Factories" by V. B.
Jones, M.A.

South Essex **7.30 p.m. February 15th**
The Ilford Club, 21a Balfour Road, Ilford.
"Machine Tool Development" by N. Stubbs, M.B.E.,
B.Sc.(Hons.).

SOUTH WESTERN REGION

Cornwall **7 p.m. February 13th**
The Cornwall Technical College, Trevenson, Pool, Redruth.
"The Right Material in the Right Place" by Hugh Bartle,
G.I.Mech.E. (Joint meeting with special course at Technical
College — by kind permission of the Principal — G. D.
Alder, B.Sc., A.M.I.Prod.E.) *Members of Section only
please.*

Gloucester **7.30 p.m. February 10th**
The Wheatstone Hall, Gloucester.
"New Methods of Measuring Productivity with Particular
Reference to the Welding Industry" by A. G. Thompson.
(Joint meeting with Gloucester Engineering Society.)

Western **7.15 p.m. February 15th**
The Small Lecture Theatre, Bristol University Engineering
Laboratories, University Walk, Bristol, 8.
"Automatic Inspection — The Anatomy of Conscious
Machines" by J. A. Sargrove, M.I.Prod.E., M.I.E.E.,
M.Brit.I.R.E.

Western **7.30 p.m. February 22nd**
The College, Swindon.
"Compressed Air in Aircraft Production — A User's
Experience" by W. E. Wright, M.I.Mech.E., A.M.I.Prod.E.,
A.F.R.A.E.S.

Western Graduate **7.30 p.m. February 8th**
The Grand Hotel, Bristol.
"High Speed Machining in Aircraft Industry" by S.
Radcliffe, B.Sc., A.M.I.Mech.E., M.I.Prod.E.

WELSH REGION

South Wales **7 p.m. February 24th**
The South Wales Engineers' Institute, Park Place, Cardiff.
"Budgetary Control on the Shop Floor" by F. T. Hunter,
A.C.A., A.C.W.A. (Joint meeting with the Institute of
Cost and Works Accountants.)

West Wales **7.30 p.m. February 10th**
The Central Library, Alexandra Road, Swansea.
"Automation for Production" by F. Garner, M.I.Mech.E.

MARCH 1st - 7th

MIDLANDS REGION

Coventry Graduate **7.15 p.m. March 6th**
The Craven Arms, High Street, Coventry.
"Douglas D. Davis Award" — Annual award for the best
Paper given to the Section by a member of the Coventry
Graduate Section.

Wolverhampton **6.45 p.m. March 7th**
The Wolverhampton and Staffordshire Technical College,
Wolverhampton.
Annual General Meeting followed by a Paper on the New
British Standard, B.S. 1916. "Limits and Fits" by H. Lister,
A.M.I.Prod.E. (A.G.M. members only.)

NORTH MIDLANDS REGION

Derby **7 p.m. March 6th**
The R. R. Welfare Hall, Nightingale Road, Derby.
"Plant Purchase, Costs and Profits" by B. D. Tait,
A.C.W.A. (Joint meeting with the Institute of Cost and
Works Accountants.)

Peterborough **7.30 p.m. March 7th**
The White Lion Hotel, Church Street, Peterborough.
Annual General Meeting and Film Programme. (A.G.M.
members only.)

NORTH WESTERN REGION

Stoke-on-Trent **7.45 p.m. March 5th**
Hanley Town Hall, Hanley, Stoke-on-Trent.
"Air Photography in Peace and War" by Group Captain
F. C. V. Laws, C.B., C.B.E., F.R.P.S. The lecture will be
preceded by the Annual General Meeting which will
commence at 7 p.m. (Members only.)

SCOTTISH REGION

Glasgow **7.30 p.m. March 1st**
The Institution of Engineers and Shipbuilders in Scotland,
39 Elmbank Crescent, Glasgow, C.2. Annual General
Meeting and Open Discussion. (A.G.M. members only.)

SOUTHERN REGION

Southern **8 p.m. March 2nd**
The Polygon Hotel, Southampton.
Annual General Meeting (Members only).

SOUTH EASTERN REGION

Luton Graduate **7.45 p.m. March 5th**
The Mayor's Parlour, Court House, St. Albans, Herts.
Annual General Meeting and Production Panel. Questions
will be put by Graduate members to Senior Section
members of wide experience. (A.G.M. members only.)

JOINT MEETING

Birmingham Section — Lucas Engineering Society — Birmingham Productivity Association

A Joint Meeting of the above will be held on 28th February, 1956, at Joseph Lucas, Ltd., Great King Street, Birmingham, at 5.45 p.m.

The subject of the meeting is "The Automatic Factory", and after the showing of two films, discussion will be opened by Dr. T. U. Matthew, M.I.Prod.E. Admission will be by ticket only.

PRODUCTION APPOINTMENTS

BULLETIN No. 29
FEBRUARY 1956

The last date for receiving material for insertion in the following month's bulletin is the 20th of each month. The fee for insertion of particulars regarding each appointment is £3 3s. (up to 100 words), and over 100 words £5 5s. A standard charge of £1 1s. per insertion is made to firms affiliated to the Institution, Technical Colleges, Universities and similar organisations.

Advertisers are advised that better response is likely if, in addition to essential qualifications, the following information is given :—

(a) Location of appointment; (b) Status in the organisation and scope of promotion; (c) Salary range and age range. Advertisers are asked to advise the Institution when appointments are filled. The Institution reserves the right to refuse or withdraw any announcement and also to make any alteration in the wording to ensure conformity with the Institution standards. *Members interested in the following appointments should make application in accordance with the terms of notice. No correspondence can be undertaken by the Secretary other than the forwarding of replies to Box Nos.*

All advertisements appearing in this Bulletin are subject to the Notification of Vacancies Order of 1952.

Production Controller, Box 1258 (January issue). This vacancy has now been filled.

Planning Engineer required by electronic engineering Company within 30 miles of London. O.N.C. Electrical or Mechanical and previous experience of radio or telephone industry preferred. Salary up to £850 p.a. for right man. Permanent, pensionable position, offering excellent prospects. Apply : Box No. 1247, I.Prod.E., 10 Chesterfield Street, London, W.1.

Tool Draughtsman required with experience of tools, jigs and fixtures, for batch production of electronic equipment. Commencing salary up to £750 p.a. 30 miles from London. Pension scheme in operation. Apply to : Box No. 1248, I.Prod.E., 10 Chesterfield Street, London, W.1.

Design and Development Engineers. The British Tabulating Machine Company Limited, Letchworth, Herts., has several vacancies in their technical division to offer to experienced engineers on work concerned with the development and design of high speed electro-mechanical accounting machinery. A four-figure salary is envisaged for men who are technically qualified and possess previous shop and design experience in the right field. Pension Fund and sick pay facilities. Interview expenses paid. Applications should be addressed to : Personnel Superintendent, quoting reference : PE/628.

Translator required by the Production Engineering Research Association of Great Britain. Duties will include translation of articles in the Continental technical press. German and French are the languages principally required. Permanent position. F.S.S.U. superannuation scheme in operation. Applications giving details of experience, qualifications, age and salary required to : The Secretary, PERA, Melton Mowbray.

Young Engineer. Alkaline Batteries Limited, of Union Street, Redditch, Worcs. require a young Engineer for Works Engineer's Office. Aged between 21 and 27 years. Must have at least Ordinary National Certificate in Mechanical Engineering, previous experience in Engineers' office desirable. Good prospects to suitable applicant. Please apply, with full particulars, to : The Personnel Manager.

Tool Designer required for consulting firm with headquarters at Egham, Surrey, for work on jig and tool and special purpose machine design. The post offers interesting opportunities for a wide variety of work on improvements to production methods and automation both at home and abroad. Starting salary £700/800 p.a. with good prospects. Please reply with full details to : Box No. 1286, I.Prod.E., 10 Chesterfield Street, London, W.1.

Senior and Junior vacancies exist with The English Electric Co. Ltd., Guided Weapons Division, Stevenage, Herts., for work in the production engineering department :— 1. Methods Engineers; 2. Planning and Estimating Engineers; 3. Standards and Specification Engineers; 4. Jig and Tool

Draughtsmen. Housing accommodation is available. Please apply to : Dept. C.P.S., 336/7 Strand, W.C.2, quoting ref. S.A.38L.

Project Engineers. The British Tabulating Machine Company Ltd., Letchworth, Herts., manufacturers of 'Hollerith' punched card accounting machines invite applications from men with previous process planning and/or methods engineering experience for appointment as Project Engineers. This type of post covering liaison between design and production units, the introduction of new designs including efforts towards design simplicity and economic production, calls for tact and understanding coupled with an inventive turn of mind and the ability to arrive at decisions. An unique opportunity is offered to qualified engineers seeking a more challenging position. Write, in first instance, to : Personnel Superintendent, giving personal history and quoting reference PE/2/914.

Chief Designer Executive level, small office, designing special purpose machine tools for new and rapidly expanding field, salary according to qualifications, but in the region of £1,000 a year, plus bonus, contributory pension scheme operates, excellent opportunities for the right man for further advancement. Box No. 1287, I.Prod.E., 10 Chesterfield Street, London, W.1.

Personal Assistant - age 25/35 years - required by Managing Director of firm manufacturing small to medium sized automatic boilers in Surrey. Loyalty and initiative, coupled with good technical training and works experience essential. Excellent prospects for the right man. Send full particulars to : Box No. 1288, I.Prod.E., 10 Chesterfield Street, London, W.1.

Machine Shop Manager required for general engineering works in South Wales, must be fully experienced in rate fixing on lathes, vertical milling machines, planers, horizontal borers, drills and slotters, with some knowledge of estimating on light and medium machine work. Experienced in control of labour. Will be responsible to Director in charge of the Works and will be responsible for about 60 men, skilled and unskilled. Staff pension scheme. Apply in writing to : Brown, Lenox & Co., Ltd., Pontypridd, Glam., ref. A.G.G.

Planning Engineer required by a medium size old established company in Surrey specialising in the manufacture of fractional horse-power electric motors. Preference will be given to applicants who have served an Engineer's apprenticeship and have knowledge of batch production methods in the fractional horse-power motor industry. A knowledge of material control systems will be an advantage. The position offers considerable scope for advancement to a man with initiative and enterprise. Apply giving age and details of education and previous experience to : Box No. 1289, I.Prod.E., 10 Chesterfield Street, London, W.1.

Press Shop Manager required. Age 38 to 45. Applicants should have served an engineering apprenticeship and possess membership of an engineering Institution or have

equivalent qualification. They should have had a wide experience of pressing and welding, planning and organising, and introducing improved production methods for which experience of the application of work study is considered essential. Ability to control a labour force of about 100 (males and females) and to co-operate with other departmental Managers is an important qualification. Applications to : Personnel Executive, Davis Gas Stove Co. Ltd., Luton, Beds.

Work Study Engineers. A. Boake, Roberts & Company Ltd., Chemical manufacturers, Carpenters Road, London, E.15, require Work Study Engineers to install method study and work measurement schemes in their London factories. Candidates should have had previous experience in a process industry, and an engineering qualification would be an advantage. Salary will be commensurate with age, experience and qualifications. Applications should be made, in writing, to : The Works Director.

Methods Engineer required for factory of 150 employees in Birmingham manufacturing small precision machines and mechanisms. Applicants should be fully experienced in methods engineering, process planning and job and product estimating as applied to prototype or small batch production. Experience in time study is essential, together with a sound knowledge of machine tools, sub-assembly, assembly and fitting operations. Applicants should have served a full apprenticeship, preferably possess H.N.C. and be between 30 and 40 years of age. This position is a responsible one requiring considerable personal ability and initiative. The salary will be in the region of £900 according to experience and the post is pensionable. Applications in writing stating age, education, qualifications and experience in chronological order in confidence to : Box No. 1290, I.Prod.E., 10 Chesterfield Street, London, W.1.

Work Study Engineer required by a group of companies engaged in the printing and packaging trade and operating in South Lancashire. Initially the successful applicant will be required to develop new methods and apply incentives in a large carton works. Ultimately he will be expected to extend his responsibilities to cover work study application in two other nearby factories. He should have had wide experience in work study and be capable of working largely on his own initiative. Starting salary will be between £850 - £1,000 depending on experience. Applicants should state age, qualifications, experience and present salary. Box No. 1291, I.Prod.E., 10 Chesterfield Street, London, W.1.

Executive. Progressive organisation in Midlands with wide variety of interests in the engineering industry, seek versatile Executive to foster the design, manufacture and commercial presentation of new types of oil burning space heaters. When development has been successfully completed the chosen applicant will qualify for consideration as Divisional Director. A substantial salary will be offered to the right man. Age 30 - 40 years, but suitable applicants outside this range will receive every consideration. Reply to : Box No. 1292, I.Prod.E., 10 Chesterfield Street, London, W.1.

Development Engineer required for mass production precision engineering works in North Midlands. The methods and processes are of a varied nature covering in the main, machining, grinding, assembly and inspection and the appointment is with a view to introducing new and improved methods on a high precision quality product. Applicants, who should be about 35 years of age, must have had good technical and practical experience, possess initiative, discernment and have a flair for experimental work and investigation, will be given guidance and every assistance. Some knowledge of electricity desirable. The position is permanent for a suitable applicant who should derive considerable satisfaction and interest from the work. The Company is old established and operates a pension scheme. Reply in confidence giving full particulars of experience, qualifications, salary required and age. No original testimonials please. Box No. 1293, I.Prod.E., 10 Chesterfield Street, London, W.1.

Methods Engineer of section leader status required by important engineering company in Leicestershire. Applicants should be not less than 30 years old and be fully experienced in batch and jobbing production under time study conditions. Sound machine shop knowledge required and ability to organise and control staff essential. Please apply, quoting apprenticeship, education, and positions held, in chronological order, with salaries and dates, to : Box No. 1294, I.Prod.E., 10 Chesterfield Street, London, W.1.

Work Study Engineers. Important Leicestershire engineering company manufacturing medium equipment has immediate vacancies for Work Study Engineers. Good method study/work measurement background required, together with sound practical experience in machining, fitting or structural work. Young men with practical engineering experience and suitable qualifications are also required for work study training. Housing accommodation can be made available. Apply in first instance, stating age, details of experience, salary, etc., to : Box No. 1295, I.Prod.E., 10 Chesterfield Street, London, W.1.

Estimating and Production Engineer, preferably with experience of foundry and machine shops, required for progressive and compact engineering company. Applicants should be between 25 to 30 years of age, with Higher National Certificate or B.Sc.(Eng) standard. The position offers opportunity for advancement, and commencing salary would be in the region of £750 per annum, the actual amount depending on experience etc., of applicants. Apply in writing, marking your letter 'Personal', to : The Managing Director, St. Pancras Engineering Works Ltd., Chichester, Sussex.

First-class Estimator. Engineering firm in West London requires services of first-class Estimator with sound experience of heavy industrial equipment fabricated in stainless steel. Experience with stainless steel plate work, sheet metal work and machine-shop desirable. Ordinary National Certificate standard minimum. Excellent prospects, pension scheme. Salary in accordance with qualifications. Apply, with details of age and experience to : Box No. 1296, I.Prod.E., 10 Chesterfield Street, London, W.1.

H.M. Inspectors of Factories (Class II). Ministry of Labour and National Service. The Civil Service Commissioners invite applications from men and women for pensionable posts. Age at least 21 and (unless exceptionally well qualified) under 30 on 1st June in the year of application with extension for regular service in H.M. Forces. London salary (including extra duty allowance where payable) £506 (at age 21), then according to age up to £669 at 26 or over, rising to £917. Somewhat lower outside London. A special increment of £25, within the scale, is granted after passing probation. Higher posts filled by promotion from Class II. Duties include the enforcement of the provisions of the Factories Acts and Regulations affecting the safety, health and welfare of work people and extend to all manufacturing industries and to certain other places, including Docks, Works of Engineering Construction and Building Operations. Candidates must normally be university graduates, preferably in Engineering or Natural Science (or comparable technical qualifications, e.g. A.M.I.Mech.E.). Graduates in other subjects, including Arts are eligible. Works or other practical experience an advantage. Candidates without degrees (or comparable technical qualifications) who have good general or technical qualifications, and have had considerable work or other practical experience (especially in responsible positions) will also be considered. Application may be made at any time, and so long as there are vacancies suitable candidates will be interviewed. Particulars from : Secretary, Civil Service Commission, 6 Burlington Gardens, London, W.1, quoting No. 280.

Production Superintendent is required by a progressive and old established Midlands engineering Company. Initially the post will involve the responsibility for achieving higher output and reducing costs in the Company's Automotive Division. Preferred qualifications : full apprenticeship,

supervisory experience under mass production machining conditions on automotive type parts, and a good basic technical education up to O.N.C. standard or beyond. Approximate age range 30-40. This is an extremely attractive opening in a company geared to increasing its turnover considerably in the next few years. All replies will be acknowledged, treated in strictest confidence and given full and careful consideration. Please write, stating full details of experience and technical qualifications in chronological order, age and salary required to : Box No. 1297, I.Prod.E., 10 Chesterfield Street, London, W.1.

Machine Shop Superintendent required for works in Speke. Intention to extend and modernize existing plant to undertake new production. Applicants must have had experience in machine tool manufacture. Age 35 to 40. A progressive opening for a man of character, ambition and leadership. Apply, stating age, experience and salary required to : The Technical Director, Chatwood-Milner, Harlescott, Shrewsbury.

Chief Planning Engineer required by medium to heavy engineering company in the West Riding of Yorkshire. Applicants should have experience of batch production, together with sound practical knowledge and shops experience. Contributory pension scheme, and free life assurance scheme operating. Apply, giving full details as to experience, qualifications, age, salary required, etc. to : Box No. 1298, I.Prod.E., 10 Chesterfield Street, London, W.1.

Works Engineer. Genatosan Limited, a member of the Fison Group, require a qualified Works Engineer. Must have experience of steam raising, power generation and general maintenance. Some knowledge of planned preventive maintenance would be an asset. The post would suit an engineer with experience in the chemical, milk processing, pharmaceutical, or similar industry. Applications, stating age, education and experience to : The Personnel Officer, Genatosan Limited, Loughborough, Leics. Please quote reference W.E.

Young Engineer. A vacancy exists in an old established Leicestershire engineering company for a young engineer willing to undergo a period of instruction with the ultimate view of taking charge of one of the machine shop production control offices. After the training period the successful candidate will have charge of a staff and be responsible for the carrying through of production schedules on batch and jobbing production. A sound engineering background and a knowledge of modern machine tools and loading procedure is essential. Applicants should be between the ages of 30-35 and have good personality, drive and enthusiasm. Please write, stating age and full details of experience and qualifications to : Box No. 1299, I.Prod.E., 10 Chesterfield Street, London, W.1.

Chief Production Engineer. Applications are invited for this senior appointment by a large engineering company in the Midlands. The successful applicant will be responsible for the production engineering in a Works employing 6,000 people, the products of which cover a wide range of heavy and light engineering products, fabricated structures, etc. This is an important appointment and a really first-class man is required. For preference applicants should have served a full-time engineering apprenticeship and experience with a firm of industrial consulting engineers would be an advantage. Remuneration will be commensurate with the responsibilities involved, and there are opportunities for advancement. Energy and drive are particular requirements, and the ability to work well with personnel at all levels is a "must". Applications, giving full particulars of age, education and industrial experience in chronological order should be addressed to : Box No. 1300, I.Prod.E., 10 Chesterfield Street, London, W.1.

Toolroom Superintendent. J. A. Crabtree & Co. Ltd., Manufacturing Electrical Engineers, Lincoln Works, Walsall, invite applications for the position of Toolroom Superintendent. Applicants should have had practical experience and would be responsible for the production and

design of press tools for small parts. Deep drawing tools and bakelite moulding dies for the mass production of components to fine limits. Details of qualifications, experience and salary required should be addressed to : The Secretary.

Specialist Tool Design Engineer. English Electric Co. Ltd., Meter, Relay & Instrument Division, Stafford. A new key appointment is to be made for a top-grade engineer with considerable experience of increasing productivity, by the use of up-to-date automatic and semi-automatic tooling techniques, to be applied to high quantity production of precision components for meters, relays and instruments. Previous experience of these particular products not essential. The post is permanent, progressive, and pensionable and at an appropriately high salary level. A house will be made available to the successful applicant. Applications should contain complete personal background and will be accorded strict confidence. Apply to : Dept. C.P.S., 336/7 Strand, W.C.2, quoting ref. 1170C.

Works Manager with a sound engineering training and experience in up-to-date methods of production and control is required at the North-East coast factory of a well-known company. The successful applicant will be a man of strong personality and exceptional qualities who can ensure economical production in a medium size factory embracing machining, light and heavy assembly and electrical work. A starting salary of not less than £1,500 is envisaged and prospects are excellent. There is a pension fund in operation and assistance will be given with housing if required. Write, giving full details including age, previous experience and salaries earned to : Box No. 1301, I.Prod.E., 10 Chesterfield Street, London, W.1.

Draughtsmen with mechanical experience are required for a small design group in a large manufacturing concern, East London area. Qualifications should include H.N.C. and apprenticeship. The work would include redesigning and modernising special purpose machinery, mainly for export. Permanent positions, non-contributory pension scheme, canteen, sports facilities, etc. Please send details of career to date, experience and salary required to : Box No. 1302, I.Prod.E., 10 Chesterfield Street, London, W.1.

Senior Staff appointment for a candidate who has good experience in the manufacture of aircraft components and sub-contracts, in particular, administrative experience in planning, progressing, rate fixing and estimating, is invited to apply for a position as Departmental Head which is offered in a manufacturing section of an aircraft division situated in the Midlands area. The post is pensionable and permanent and offers scope for a person with initiative and drive. Full particulars to : Manager, Field Aircraft Services Ltd., Tollerton, Nottingham.

Work Study man required for London processing factory to work under guidance of consultants. Salary range £500 - £650 per annum minimum. One year's experience essential. Please write in confidence, stating age, education, experience and present salary. All applications will be acknowledged. Apply to : Box No. 1303, I.Prod.E., 10 Chesterfield Street, London, W.1.

Executive. A vacancy exists in the management team of a company of repute, for an Executive with an experienced background of progress control from raw material to the finished product of small highly repetitive commodities used in the light and electrical engineering fields. Preference will be given to the applicant with exceptional ability in organising for continuous high speed batch and mass production requirements. Apply, quoting C.2. to : Box No. 1304, I.Prod.E., 10 Chesterfield Street, London, W.1.

First-class Engineer required. Must be experienced in steel rod and wire mill practice. Degree in Mechanical Engineering or equivalent. This is a senior staff appointment ideally suited to a man 30-40 years of age requiring interesting, progressive and permanent post carrying a four-figure salary. Applications in writing, giving details of

age, education, experience, salary required and when available to : Richard Hill Limited, Newport Wire & Rolling Mills, Middlesbrough.

Methods Engineer. conversant with manufacture and assembly of machine tool parts, required to introduce time study assembly methods and to establish bonus times. Good prospects in old established and expanding organisation in S.W. Essex area. Write details of career and salaries earned to : Box No. 1305, I.Prod.E., 10 Chesterfield Street, London, W.1.

Methods Engineer required for assembly, preferably with planning experience on i.c. engines. O.N.C. minimum qualification. Permanent position. Apply : Personnel Manager, F. Perkins Ltd., Peterborough.

Assistant to Chief Engineer. Mechanical engineer required as Assistant to Chief Engineer of large manufacturing company undergoing expansion. Applicants, under age of 35, should have degree or equivalent in engineering, basic workshop training and some years industrial experience in similar position. This new appointment offers excellent prospects and a good salary will be paid to the right man. Superannuation scheme. Apply in confidence, giving full personal details and salaries earned to : Personnel Manager, Box No. 1306, I.Prod.E., 10 Chesterfield Street, London, W.1.

Machine Tool Engineer. A large steel manufacturing and engineering company has a vacancy for a Machine Tool Engineer. Experience in installation and maintenance of medium and heavy machine tools and knowledge of modern machine shop production methods essential. Applications, giving age and full details of qualifications and experience should be addressed to : Box No. 1307, I.Prod.E., 10 Chesterfield Street, London, W.1.

Work Study. Two Methods Engineers and one Time Study Engineer required. Trained men preferred but consideration given to suitable men as trainees. Five-day week, pension scheme and all welfare facilities. Apply in writing to : Personnel Manager, The Telegraph Construction & Maintenance Co. Ltd., Telcon Works, Greenwich, S.E.10.

Trainee Production Controller wanted by Bermonsey Engineering Company. Personality and initiative more important than previous experience. £550 per annum. Box No. 1308, I.Prod.E., 10 Chesterfield Street, London, W.1.

Chief Production Engineer. The Mettoy Company Limited invite applications for the senior appointment of Chief Production Engineer. The Gower Peninsular, a magnificent coastal and country area under the National Trust, is within easy daily travelling distance. Schools and education are unrivalled in Britain. We are seeking high professional qualifications and considerable experience of light engineering mass production techniques; a lively mind and energetic personality; knowledge and experience of development engineering, press work, assembly, plastic moulding and pressure diecasting. It is not a post for a man seeking wider experience or training—we are looking for the finished product. We offer a truly rewarding post to the right man who should be in his middle thirties to middle forties. Applications—in the fullest detail please—should be addressed to : The Managing Director, The Mettoy Company, Limited, Swansea, and marked "Confidential".

Stock Controller. Applications are invited for the position of Stock Controller with a large engineering company on the outskirts of Manchester. The position will involve the complete responsibility for the interpretation and provisioning of the Company's large production programme together with the control of the Company's stores. The post is a senior staff appointment, and the successful applicant will be directly responsible to the Production Controller. Applications, giving full details of experience and qualifications, should be addressed to : The Personnel Manager, Box No. 1309, I.Prod.E., 10 Chesterfield Street, London, W.1.

Production Engineers are required by a leading British Public Company manufacturing luxury consumer goods in vast quantities. The candidates should be men of character with ambition and initiative. Those selected will be engaged as Assistant Engineers in the Westminster Head Office. Production and Engineering Department. Opportunities for advancement are unlimited in this department, it is also possible to obtain General Management appointments in any of the 400 establishments making up the international chain. The age range is 21-33 years. The salary range £650-£1,200 per annum to commence. A brief description of some of the duties and responsibilities is as follows : To develop products, plan production, select materials and equipment, design equipment, to visit overseas establishments and suppliers. Please apply in writing. State details of education, qualifications, age, past employment and a short personal history. To : Mr. P. J. Dewsnap, Commercial and Industrial Consulting Services, 10 Calvert Avenue, Shoreditch Church, London, E.2.

Assistant Manager required for the Yorkshire works of an expanding manufacturing organisation. Applicants should be experienced in modern management techniques and possess a sound background of production or chemical engineering. The position demands organising ability and preference will be given to a man above 30 years of age. The salary offered will be commensurate with age and experience, and housing accommodation may be included. Applications to : Box No. 1310, I.Prod.E., 10 Chesterfield Street, London, W.1.

Design Engineer. Applications are invited from mechanical engineers for a vacancy as Design Engineer with a small but rapidly expanding company in Bath. The company manufactures special purpose machinery, and experience in the maintenance and operation of process machinery would be an advantage. Minimum qualifications H.N.C. Age range 28-40. Applications, stating age, experience, qualifications and salary required, which will be treated in confidence, should be addressed to : The Personnel Officer, C.I.C. Engineering Limited, Street, Somerset.

Work Study Engineer. Messrs. J. & E. Hall Limited, Dartford, Kent, require a Work Study Engineer of proved ability in all spheres of unit and batch production, not exceeding 45 years of age and possessing H.N.C. in Production or Mechanical Engineering or equivalent and have had at least 5 years experience in a senior capacity. Successful applicant will be expected to initiate and develop an efficient work study and methods department which will ultimately extend into all departments concerned with the production of refrigerators, lifts, etc. Some electrical knowledge and experience of control gear production will be an advantage, although the major part of production is mechanical. Modern office accommodation is available and the post will be pensionable. This is not a post for a man seeking wider experience or training—we are looking for the finished product. Applicants should send, in confidence, a detailed report of their industrial experience to : The Managing Director, Mr. V. A. Patterson.

Sales Engineer required by medium size family engineering company. An opportunity to a well trained young engineer, capable after training of working on his own responsibility and initiative, to reorganise sales of established and new products for the electrical and aircraft industries requiring approach on technical level. Applicants should be prepared to put wholehearted effort into achieving results in an interesting branch of engineering with excellent prospects. Age not more than 35. Write, stating salary required to : Box No. 1311, I.Prod.E., 10 Chesterfield Street, London, W.1.

Engineers with production experience and sound knowledge of modern methods required for process planning in the production engineering department of a large light/medium manufacturing Company in Nottingham. Experience in one or more of the following spheres is essential—presswork, multi spindle autos and general machining, hardening plating and enamelling. Please state age and salary required. Box No. 1312, I.Prod.E., 10 Chesterfield Street, London, W.1.

Assistant Works Manager required with experience of mass production presswork, auto screw machines, light machining and finishing processes, for factory in East Yorkshire. Applicants should be not more than 45 and must have experience of personnel management. Modern plant in new factory, successful applicant would be expected to develop methods and increase production. Box No. 1313, I.Prod.E., 10 Chesterfield Street, London, W.1.

Production Engineer with experience of shell moulding and pattern making required. Candidates should have had experience in shell moulding processes and will be required to organise further development in an expanding group of companies. Box No. 1314, I.Prod.E., 10 Chesterfield Street, London, W.1.

Production Engineer required for training on production development in the plastics industry for an expanding company with 1,000 employees. Candidates should be able to develop automation of light assembly processes and general works problems. Qualifications should include practical workshop training and education should be near H.N.C. Apply: Box No. 1315, I.Prod.E., 10 Chesterfield Street, London, W.1.

Management Consultants and Industrial Engineers. A. G. Hayek and Partners Limited, Management Consultants and Industrial Engineers are enlarging their team of consultants and invite further applications from men with extensive practical experience in time and motion study in a senior capacity. Preference will be given to applicants with H.N.C. or equivalent, in age range 26 to 42. Participation in profit sharing scheme after completion of probationary period and prospects of advancement to senior status for men with initiative and the right personality. Apply with fullest details and salary requirements to the above at Federation House, Stoke-on-Trent.

Methods Engineer with experience of sheet metal welded assemblies and some knowledge of machine shop work required by engineering company in West London area. Applicants should have served full apprenticeship and preferably possess O.N.C. Experience in jig and fixture design essential. Age between 25 - 28. Salary commensurate with experience. Reply, giving full details to: Box No. 1316, I.Prod.E., 10 Chesterfield Street, London, W.1.

Engineer aged about 25 years, preferably of H.N.C. standard, for the editorial staff of a well-known technical journal with offices in London. Sound training and experience in machine shop and allied departments combined with the ability to write understandable and

correct English are essential qualifications. Letter of application should state salary required and give the fullest possible details of education, training and experience so that the advertisers can judge the type of work done by the applicant and, therefore, his possible knowledge of engineering production. Write: Box No. 1317, I.Prod.E., 10 Chesterfield Street, London, W.1.

EDUCATIONAL APPOINTMENTS

North Staffordshire Technical College, Stoke-on-Trent.
Grade "C" Lecturer. Applications are invited for the post of Grade "C" Lecturer required mainly for lecturing in Management subjects from the industrial aspect. The appointment would provide an excellent opportunity for a production or industrial engineer interested in lecturing on managerial subjects to advanced, sandwich and part-time students, supervisors and foremen from the local industries, including subjects for the Intermediate Certificate in Management. Applicants should hold a Higher National Certificate or equivalent qualification, and should have had adequate industrial experience, preferably including experience in production planning or work study or other aspects of industrial management. Duties to commence as soon as possible. Salary on the Burnham Technical scale, £965 by £25 to £1,065 per annum. Applications, giving details of qualifications, training and experience, together with the names of two referees, should be sent to the Principal immediately.

Chesterfield College of Technology.

Lecturer in Production Engineering. Applications are invited for the appointment of Lecturer in Production Engineering. Duties to commence as soon as possible. Candidates should be graduates and/or corporate members of a professional Institution and must have good industrial experience. Salary in accordance with the Burnham Technical scale for Lecturers, £965 by £25 to £1,065 per annum. Further particulars and forms of application from: S. A. Broadwell, Registrar, College of Technology, Infirmary Road, Chesterfield. Stamped addressed foolscap envelope required. Applications should be returned as soon as possible.

University of Nottingham.

Senior Research Fellowship in Production Engineering. Applications are invited for appointment to a Senior Research Fellowship in Production Engineering, within the scale £1,350 to £1,750, tenable for three years in the first instance. Further information and form of application may be obtained from: H. Pickbourne, Registrar, University of Nottingham.

